

# 7710 20-channel Solid-state Differential Multiplexer

with Automatic CJC

## Datasheet

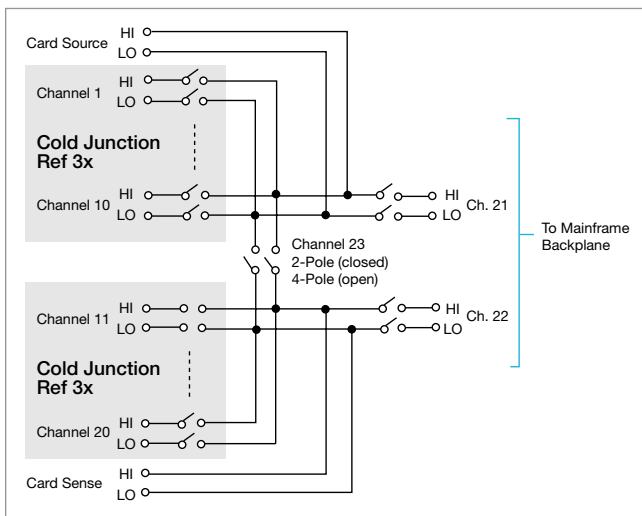


**KEITHLEY**  
A Tektronix Company

The 7710 plug-in module offers 20 channels of 2-pole or 10 channels of 4-pole relay input that can be configured as two independent banks of multiplexers. The relays are solid state, providing long life and low maintenance. Solid-state relays usually have 100 times longer life than mechanical relays. It is ideal for long-term data logging applications as well as for demanding high-speed applications.

### Key Features

- 20 channels for general purpose measurements with scanning speeds up to 800 channels/s
- High speed production or ATE testing up to 500 channels/s
- Long lifetime solid state relays
- Removable screw terminals



### Specifications

#### Capabilities

<b>Maximum Signal Level</b>	Any channel to any channel (1–20) 60 VDC or 42 V rms, 100 mA switched, 6 W, 4.2 VA maximum.
<b>Common Mode Voltage</b>	300 VDC or 300 Vrms (425 V peak) maximum between any terminal and chassis.
<b>Contact Life</b>	>10 <sup>10</sup> operations at cold switching or max signal level (guaranteed by design).
<b>Relay Drive Current</b>	6 mA per channel continuous, 25 mA during initial pulse.
<b>Contact Resistance</b>	<10 Ω per channel or <5 Ω per conductor. Refer to the 7710 User's Guide for measurement considerations when used on the instrument 1 Ω or 10 Ω ranges.
<b>Contact Potential</b>	<3 μV per pair.
<b>Offset Current</b>	<3 nA @ 23°C (per channel); additional 0.13 nA/°C >23°C.
<b>Connector Type</b>	3.5 mm removable screw terminals, #20 AWG wire size.
<b>Isolation Between Any Two Terminals:</b>	>10 <sup>10</sup> Ω @ 23°C, > 8×10 <sup>9</sup> Ω @ 50°C, <100 pF.
<b>Isolation Between Any Terminal and Earth:</b>	>10 <sup>10</sup> Ω, <100 pF.
<b>Crosstalk (CH-CH, 500 kHz, 50 Ω Load):</b>	<–40 dB.
<b>Insertion Loss (50 Ω Source, 50 Ω Load)</b>	<1 dB below 500 kHz.

#### Scanning Speeds (see mainframe specifications for details)

<b>Multiple Channels, Into Memory</b>	7710 Scanning DCV: >800. 7710 Scanning DCV alternating 2WΩ: >400.
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### General

<b>Channels</b>	20 channels of 2-pole relay input. All channels configurable to 4-pole.
<b>Relay Type</b>	Solid state opto-coupled FET.
<b>Actuation Time</b>	<0.5 ms (100 mA load).
<b>Environmental and Safety</b>	<p><b>Operating Environment:</b> Specified for 0° to 50°C. Specified to 80% R.H. at 35°C.</p> <p><b>Storage Environment:</b> –25° to 65°C.</p> <p><b>EMC:</b> Conforms to European Union EMC Directive.</p> <p><b>Safety:</b> Conforms to European Union Low Voltage Directive</p> <p><b>RoHS:</b> Conforms to European Union RoHS Directive</p>
<b>Weight</b>	0.45 kg (1 lb).

### Supplied Accessories

<b>CC-92-1</b>	Set of 20 Cable Ties
<b>TL-23</b>	Screwdriver

### Available Services

<b>7710-3Y-EW</b>	1-year factory warranty extended to 3 years from date of shipment
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### Ordering Information

<b>7710</b>	20-channel Solid-state Differential Multiplexer Module
<b>Warranty</b>	1 year

**Contact Information:**

**Australia\*** 1 800 709 465  
**Austria** 00800 2255 4835  
**Balkans, Israel, South Africa and other ISE Countries** +41 52 675 3777  
**Belgium\*** 00800 2255 4835  
**Brazil** +55 (11) 3759 7627  
**Canada** 1 800 833 9200  
**Central East Europe / Baltics** +41 52 675 3777  
**Central Europe / Greece** +41 52 675 3777  
**Denmark** +45 80 88 1401  
**Finland** +41 52 675 3777  
**France\*** 00800 2255 4835  
**Germany\*** 00800 2255 4835  
**Hong Kong** 400 820 5835  
**India** 000 800 650 1835  
**Indonesia** 007 803 601 5249  
**Italy** 00800 2255 4835  
**Japan** 81 (3) 6714 3010  
**Luxembourg** +41 52 675 3777  
**Malaysia** 1 800 22 55835  
**Mexico, Central/South America and Caribbean** 52 (55) 56 04 50 90  
**Middle East, Asia, and North Africa** +41 52 675 3777  
**The Netherlands\*** 00800 2255 4835  
**New Zealand** 0800 800 238  
**Norway** 800 16098  
**People's Republic of China** 400 820 5835  
**Philippines** 1 800 1601 0077  
**Poland** +41 52 675 3777  
**Portugal** 80 08 12370  
**Republic of Korea** +82 2 6917 5000  
**Russia / CIS** +7 (495) 6647564  
**Singapore** 800 6011 473  
**South Africa** +41 52 675 3777  
**Spain\*** 00800 2255 4835  
**Sweden\*** 00800 2255 4835  
**Switzerland\*** 00800 2255 4835  
**Taiwan** 886 (2) 2656 6688  
**Thailand** 1 800 011 931  
**United Kingdom / Ireland\*** 00800 2255 4835  
**USA** 1 800 833 9200  
**Vietnam** 12060128

\* European toll-free number. If not accessible, call: +41 52 675 3777



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